

October 2016

Time - Three hours
(Maximum Marks: 75)

IN.B: (1) Answer any fifteen questions in PART - A and division (A) or division (B) of each question in PART - B.

(2) Each question carries 1 (one) mark in PART - A and 12 (twelve) marks in PART - B.J

PART - A

1. What are the essential elements for generating emf in turbo-alternators?
2. What is the relation between speed and frequency of an alternator?
3. Define pitch factor.
4. What are the requirements for an alternator to produce an emf?
5. Define voltage regulation of an alternator.
6. What is leakage flux?
7. Write the equation of synchronizing current.
8. Write the equation to find the no-load emf.
9. Why is it not possible to run an induction motor on synchronous speed?
10. List out the tests necessary to draw the circle diagram of a three phase induction motor.
11. How will you improve the starting torque of a three phase induction motor?
12. Which is the cheapest method of starting of cage motor?
13. How is the direction of rotation of a single induction motor reversed?
14. State the application of split-phase induction motor.
15. What is the use of synchronous condenser?
16. What are the various methods of starting a synchronous motor?
17. List any three common induction motor troubles.
18. What is the purpose of drying out process?
19. What is megger?

20. Define earthing.

PART - B

21. (A) With neat sketch, explain the constructional details of cylindrical type alternator.

(Or)

(B) Derive the pitch factor and distribution factor.

22. (A) With schematic diagram, explain briefly the synchronizing of two 3ϕ alternators by dark lamp method.

(Or)

(B) Discuss the load sharing of alternators in parallel.

23. (A) Explain with a neat circuit, the operation of DOL starter.

(Or)

(B) Discuss any two methods of speed control of 3ϕ induction motor.

24. (A) Explain the constructional features and principle of operation of a 1ϕ induction motor.

(Or)

(B) Explain why synchronous motor is not self-starting.

25. (A) Explain about static balancing, varnishing and degreasing.

(Or)

(B) Explain about construction and operating principle of Buchholz relay.